

Applic. No. 10/770,617

Amdt. dated February 13, 2006

Reply to Office action of October 13, 2005

Remarks/Arguments:

Reconsideration of the application is requested.

Claims 1, 2-27, and 29-45 remain in the application. Claims 1, 4, and 30 have been amended. Claims 30-45 have been withdrawn from further consideration. Claims 2 and 28 are being cancelled herewith.

In the fourth paragraph on page 2 of the above-identified Office action, claims 1-29 have been rejected as being indefinite under 35 U.S.C. § 112.

More specifically, the Examiner alleges that the terms "follow-up", "making-up", and "bush" are not defined in the specification and have no art-recognized meaning. Applicants disagree with the Examiner. The follow-up device is described on page 1, lines 12-23 and on page 29, lines 10-26. Likewise, the making-up device is described on page 28, lines 22-25 of the specification. Regarding a "bush", a person of ordinary skill in the art knows that a "bush" is a cylindrical sleeve or collar. This fact is also shown in Figs. 3 and 4 of the instant application. Furthermore, "bush" is common terminology that is used in many issued U.S. patents.

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Accordingly, a heating bush is a heating collar. As seen from the above-given remarks, it is respectfully noted that the Examiner's comments regarding "follow-up", "making-up" and "bush" appear to be baseless. Therefore, the claims have not been amended to overcome the rejection. It is well-accepted in U.S. Patent Law that a patent attorney can be his or her own lexicographer.

The Examiner alleges that in claim 6, there is no antecedent basis for "the preforms". It is respectfully noted that the Examiner is in error. More specifically, claim 1 calls for "a matrix configuration for simultaneously receiving a number of preforms" and for "a follow-up device configured to hold and feed the preforms". Therefore, there is antecedent basis for the "preforms". Accordingly, the claims have not been amended to overcome the rejection. The performs are workpieces and are therefore properly introduced inferentially.

It is accordingly believed that the specification and the claims meet the requirements of 35 U.S.C. § 112, second paragraph. Should the Examiner find any further objectionable items, counsel would appreciate a telephone call during which the matter may be resolved.

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In the second paragraph on page 3 of the Office action, claims 1, 5-6, and 25 have been rejected as being fully anticipated by Lee (U.S. Patent Publication No. 2003/0079501 A1) under 35 U.S.C. § 102.

The rejection has been noted and the claims have been amended in an effort to even more clearly define the invention of the instant application. The claims are patentable for the reasons set forth below. Support for the changes is found on page 32, lines 1-11 of the specification.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, *inter alia*:

a fiber furnace having heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration having first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than 90° with respect to one another.

Claim 1 also calls for, *inter alia*:

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a drawing and sizing installation configured to receive glass fibers drawn from the preforms in the heating bushes such that the glass fibers lie next to one another as a band when being received by the drawing and sizing installation.

Applicants respectfully disagree with the Examiner's allegations on page 3 of the Office action, that the terms "follow-up", "making-up" and "bush" have no art recognized meaning. As seen from the comments provided above with respect to the rejection under 35 U.S.C. §112, second paragraph, the terms "follow-up", "making-up" and "bush" do have art recognized meaning. Therefore, it is respectfully believed that the Examiner is in error when stating that the terms do not limit the claims.

The disclosure of the Lee reference is discussed in the specification of the instant application.

The reference does not show a fiber furnace having heating bushes disposed as a matrix configuration for simultaneously receiving a number of preforms, the matrix configuration having first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another, as recited in claim 1 of the instant application. The Lee reference is silent regarding bushes disposed in a matrix

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configuration. Lee does not disclose heating bushes disposed as a matrix configuration having matrix axes disposed at an offset angle of less than  $90^\circ$  with respect to one another. This is contrary to the invention of the instant application as claimed, in which a fiber furnace has heating bushes disposed as a matrix configuration for simultaneously receiving a number of preforms, the matrix configuration having first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another.

The reference does not show a drawing and sizing installation configured to receive glass fibers drawn from the preforms in the heating bushes such that the glass fibers lie next to one another as a band when being received by the drawing and sizing installation, as recited in claim 1 of the instant application. The Lee reference is silent regarding a drawing and sizing installation configured to receive glass fibers drawn from the preforms. Lee does not disclose a drawing and sizing installation configured to receive glass fibers drawn from the preforms. This is contrary to the invention of the instant application as claimed, in which a drawing and sizing installation is configured to receive glass fibers drawn from the preforms in the heating bushes such that the glass fibers lie next to one another as a band when being received by the drawing and sizing installation.

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Since claim 1 is believed to be allowable over Lee, dependent claims 5-6 and 25 are believed to be allowable over Lee as well.

In the second paragraph on page 5 of the Office action, claims 1-6, 18-19, 25, 28, and 29 have been rejected as being fully anticipated by Guoronnec et al. (U.S. Patent No. 4,373,943) (hereinafter "Guoronnec") under 35 U.S.C. § 102.

The Guoronnec reference discloses a multiple fiber forming machine. Guoronnec discloses a furnace that has drawing laboratories. The furnace may have laboratories that are configured radially around a central axis in an axial symmetry, but can also have linearly arranged laboratories.

The reference does not show a fiber furnace having heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration having first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another, as recited in claim 1 of the instant application. The Guoronnec reference discloses heating laboratories that are disposed in an axial symmetry or in a linear fashion. Guoronnec does not disclose heating bushes disposed as a matrix configuration,

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the matrix configuration having matrix axes disposed at an angle of less than  $90^\circ$  with respect to one another. This is contrary to the invention of the instant application as claimed, in which a fiber furnace has heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration has first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another.

The present invention as claimed provides the advantages that the bushes are disposed next to one another in a tight spatial configuration. Therefore, undesired cold air streams in the vicinity of the hot glass fibers are avoided. Accordingly, correspondingly constructed cooling ways, guiding or steering the air, achieve a predetermined cooling course for the glass fibers after exiting the heating bush. This results in a substantial improvement of the quality of the glass fibers and the resulting fiber bunch.

Since claim 1 is believed to be allowable over Guoronnec, dependent claims 2-6, 18-19, 25, 28, and 29 are believed to be allowable over Guoronnec as well.

In the third paragraph on page 7 of the Office action, claims 7 and 8 have been rejected as being obvious over Guoronnec

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(U.S. Patent No. 4,373,943) alone, or in view of Watts (U.S. Patent No. 4,204,852) under 35 U.S.C. § 103. Watts does not make up for the deficiencies of Guoronnec. Since claim 1 is believed to be allowable, dependent claims 7 and 8 are believed to be allowable as well.

In the second paragraph on page 8 of the Office action, claims 8 has been rejected as being obvious over Guoronnec (U.S. Patent No. 4,373,943) alone, or in view of Watts (U.S. Patent No. 4,204,852) and further in view of Jensen (U.S. Patent No. 5,062,876) under 35 U.S.C. § 103. Jensen does not make up for the deficiencies of Guoronnec and Watts. Since claim 1 is believed to be allowable, dependent claim 8 is believed to be allowable as well.

In the fourth paragraph on page 8 of the Office action, claims 9-11, 21-23, and 27 have been rejected as being obvious over Guoronnec (U.S. Patent No. 4,373,943) under 35 U.S.C. § 103. Since claim 1 is believed to be allowable, dependent claims 9-11, 21-23, and 27 are believed to be allowable as well.

In the first paragraph on page 11 of the Office action, claims 1 and 12 have been rejected as being obvious over Sanghera et al. (U.S. Patent No. 5,735,927) (hereinafter "Sanghera") in view of Guoronnec (U.S. Patent No. 4,373,943) and Ishihara et



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al. (U.S. Patent Publication No. 2002/0078715 A1)

(hereinafter "Ishihara") under 35 U.S.C. § 103.

It is a requirement for a *prima facie* case of obviousness, that the prior art references must teach or suggest all the claim limitations.

The references do not show or suggest a fiber furnace having heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration having first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another, as recited in claim 1 of the instant application.

On Page 11 of the Office action, the Examiner correctly stated that Sanghera does not teach the multiple bush structure required by the claims. Sanghera does not disclose heating bushes disposed as a matrix configuration, the matrix configuration having matrix axes disposed at an angle of less than  $90^\circ$  with respect to one another. This is contrary to the invention of the instant application as claimed, in which a fiber furnace has heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration has first matrix axes and

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second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another.

As stated above, the Guoronnec reference discloses heating laboratories that are disposed in an axial symmetry or in a linear fashion. Guoronnec does not disclose heating bushes disposed as a matrix configuration, the matrix configuration having matrix axes disposed at an angle of less than  $90^\circ$  with respect to one another. This is contrary to the invention of the instant application as claimed, in which a fiber furnace has heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration having first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another.

The Ishihara reference discloses a drawing furnace (11) having an carbon heater (13) for heating and drawing an optical fiber perform (2). The Ishihara reference does not disclose heating bushes disposed as a matrix configuration, the matrix configuration having matrix axes disposed at an angle of less than  $90^\circ$  with respect to one another. This is contrary to the invention of the instant application as claimed, in which a fiber furnace has heating bushes disposed as a matrix configuration for simultaneously receiving a number of

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performs, the matrix configuration has first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than 90° with respect to one another.

The references applied by the Examiner do not teach or suggest all the claim limitations. Therefore, it is believed that there is not a *prima facie* case of obviousness.

Since claim 1 is believed to be allowable, dependent claim 12 is believed to be allowable as well.

In the fourth paragraph on page 11 of the Office action, claims 1, 11, 13-17, and 24 have been rejected as being obvious over Sanghera (U.S. Patent No. 5,735,927) in view of Guoronnec (U.S. Patent No. 4,373,943) under 35 U.S.C. § 103.

It is a requirement for a *prima facie* case of obviousness, that the prior art references must teach or suggest all the claim limitations.

The references do not show or suggest a fiber furnace having heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration having first matrix axes and second matrix axes

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being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another, as recited in claim 1 of the instant application.

As noted above, the Examiner correctly stated that Sanghera does not teach the multiple bush structure required by the claims. Sanghera does not disclose heating bushes disposed as a matrix configuration, the matrix configuration having matrix axes disposed at an angle of less than  $90^\circ$  with respect to one another. This is contrary to the invention of the instant application as claimed, in which a fiber furnace has heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration has first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another.

As stated above, the Guoronnec reference discloses heating laboratories that are disposed in an axial symmetry or in a linear fashion. Guoronnec does not disclose heating bushes disposed as a matrix configuration, the matrix configuration having matrix axes disposed at an angle of less than  $90^\circ$  with respect to one another. This is contrary to the invention of the instant application as claimed, in which a fiber furnace has heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration has first matrix axes and second matrix axes

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being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another.

The references applied by the Examiner do not teach or suggest all the claim limitations. Therefore, it is believed that there is not a *prima facie* case of obviousness.

Since claim 1 is believed to be allowable, dependent claims 11, 13-17, and 24 are believed to be allowable as well.

In the third paragraph on page 12 of the Office action, claims 1, 18, and 20 have been rejected as being obvious over Oh (U.S. Patent No. 6,053,013) in view of Guoronnec (U.S. Patent No. 4,373,943) under 35 U.S.C. § 103.

It is a requirement for a *prima facie* case of obviousness, that the prior art references must teach or suggest all the claim limitations.

The references do not show or suggest a fiber furnace having heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration having first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another, as recited in claim 1 of the instant application.

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On page 12 of the Office action, the Examiner correctly stated that Oh does not teach the multiple bushes of claim 1. Oh does not disclose heating bushes disposed as a matrix configuration, the matrix configuration having matrix axes disposed at an angle of less than  $90^\circ$  with respect to one another. This is contrary to the invention of the instant application as claimed, in which a fiber furnace has heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration has first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another.

As stated above, the Guoronnec reference discloses heating laboratories that are disposed in an axial symmetry or in a linear fashion. Guoronnec does not disclose heating bushes disposed as a matrix configuration, the matrix configuration having matrix axes disposed at an angle of less than  $90^\circ$  with respect to one another. This is contrary to the invention of the instant application as claimed, in which a fiber furnace has heating bushes disposed as a matrix configuration for simultaneously receiving a number of performs, the matrix configuration has first matrix axes and second matrix axes being disposed at an angle  $\alpha$  of less than  $90^\circ$  with respect to one another.

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The references applied by the Examiner do not teach or suggest all the claim limitations. Therefore, it is believed that there is not a *prima facie* case of obviousness.

Since claim 1 is believed to be allowable, dependent claims 18 and 20 are believed to be allowable as well.

In the penultimate paragraph on page 12 of the Office action, claims 25 and 26 have been rejected as being obvious over Lee (U.S. Patent Publication No. 2003/0079501 A1) or Guoronnec (U.S. Patent No. 4,373,943) in view of Holschlag (U.S. Patent No. 3,304,163) and optionally Watts (U.S. Patent No. 4,204,852) under 35 U.S.C. § 103. Neither Holschlag nor Watts make up for the deficiencies of Lee and Guoronnec. Therefore claims 25 and 26 are believed to be allowable well.

In the second paragraph on page 13 of the Office action, the drawings have been objected to under 37 CFR 1.83(a). The Examiner stated the angle of claim 28 must be shown or cancelled from the claims. Claim 28 has been cancelled. Therefore, the objection to the drawings by the Examiner is now moot.

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It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 1. Claim 1 is, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claim 1, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1, 2-27, and 29-45 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel respectfully requests a telephone call so that, if possible, patentable language can be worked out.

Petition for extension is herewith made. The extension fee for response within a period of one month pursuant to Section 1.136(a) in the amount of \$120 in accordance with Section 1.17 is enclosed herewith.



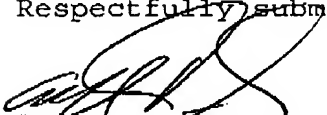
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Please charge any other fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner & Greenberg P.A., No. 12-1099.

Respectfully submitted,



For Applicant(s)

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